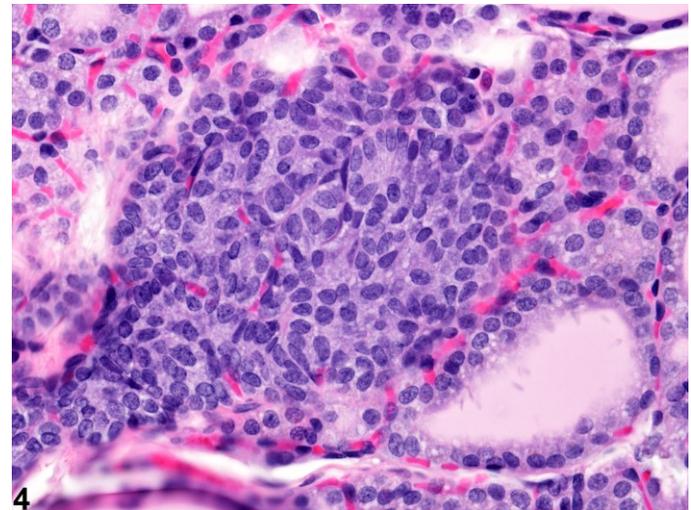
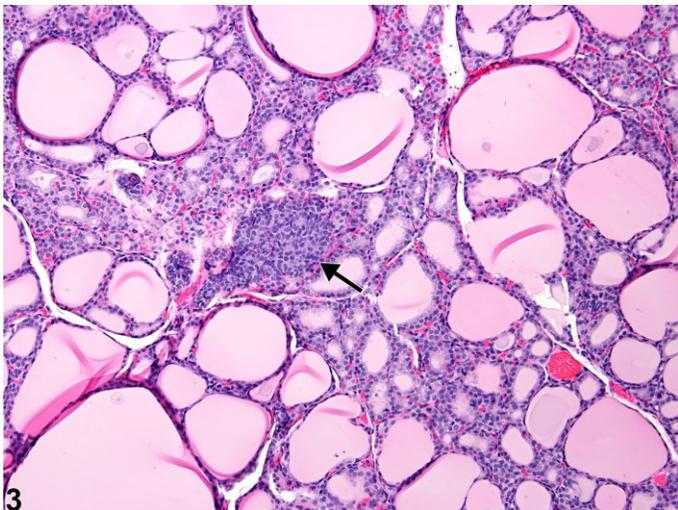
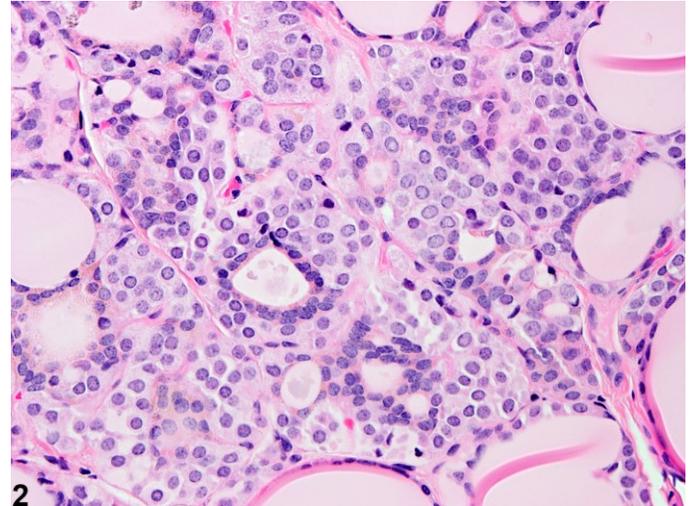
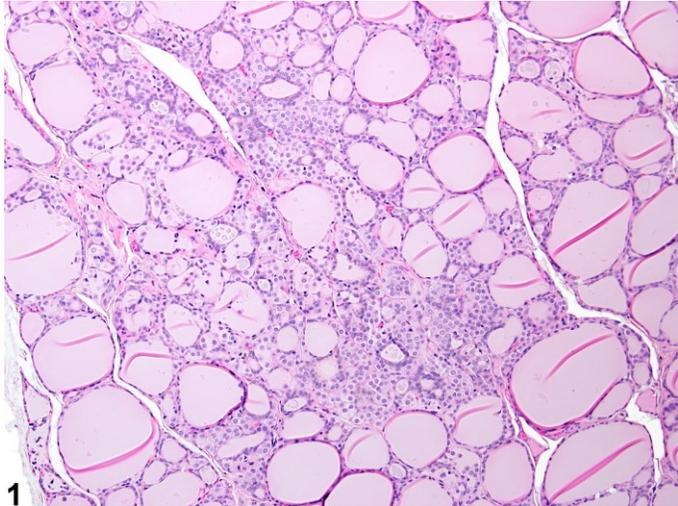




# NTP Nonneoplastic Lesion Atlas

## Thyroid Gland, C cell – Hyperplasia



**Figure Legend:** **Figure 1** Thyroid gland, C cell - Hyperplasia in a treated female F344 rat from a chronic study. Aggregates and small nests of C cells have replaced follicles in this thyroid gland. **Figure 2** Thyroid gland, C cell - Hyperplasia in a treated female F344 rat from a chronic study. Higher magnification of Figure 1 shows the contiguous nests of C cells surrounding small follicles. **Figure 3** Thyroid gland, C cell - Hyperplasia in a control male F344 rat from a chronic study. A focal proliferation of C cells is present in this thyroid gland (arrow). **Figure 4** Thyroid gland, C cell - Hyperplasia in a control male F344 rat from a chronic study. Higher magnification of Figure 3 shows illustrates the high nuclear-to-cytoplasmic ratio in this focal proliferation of C cells.



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### *Thyroid Gland, C cell – Hyperplasia*

**Comment:** C-cell hyperplasia is a common finding in chronic rat studies and can be diffuse (Figure 1 and Figure 2), focal (Figure 3 and Figure 4), or multifocal. C-cell hyperplasia is distinguished from C-cell adenoma based on the size of any given focal proliferation. The generally accepted criteria for C-cell hyperplasia is a focal C-cell cluster less than five average follicular diameters or similarly small-sized clusters of C cells scattered in interfollicular spaces. In contrast to C-cell adenomas, C-cell hyperplasia is not associated with significant compression of adjacent parenchyma. C-cell hyperplasias may contain individual trapped follicles (Figure 1 and Figure 2). C-cell hyperplasia generally consists of round to polyhedral cells with abundant eosinophilic cytoplasm (Figure 2); in some cases there is a higher than typical nuclear-to-cytoplasmic ratio (Figure 4).

**Recommendation:** C-cell hyperplasia should be diagnosed when present, given a severity grade. If bilateral it should be indicated in the diagnosis with a severity grade based on the more severely affected thyroid gland.

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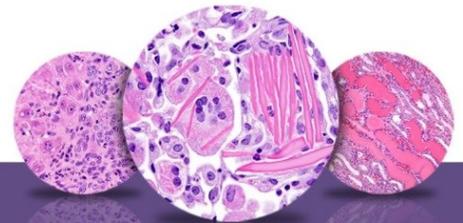
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## *Thyroid Gland, C cell – Hyperplasia*

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### Authors:

Robert R. Maronpot, DVM, MS, MPH, DACVP, DABT, FIATP  
Senior Pathologist  
Experimental Pathology Laboratories, Inc.  
Research Triangle Park, NC

Amy Brix, DVM, PhD, DACVP  
Senior Pathologist  
Experimental Pathology Laboratories, Inc.  
Research Triangle Park, NC